

Claims 1-3

The Examiner has rejected claim 1 and dependent claims 2-3 as obvious in light of Kruk et al '393. However, Kruk et al '393 does not teach or suggest the features of claim 1.

Claim 1 is directed to a method for processing envelopes in which three sides of the envelope are cut open. As discussed in the application, cutting open the envelopes allows the documents to be extracted from the envelope, so that the documents can be further processed.

Ordinarily, it is desirable to set the depth of cut to the thinnest cut possible to prevent cutting the documents inside the envelope. However, one or more of the corners of the envelope may be bent over. If the bend is wider than the depth of cut, the bent corner will not be severed. For instance, ordinarily the top and bottom edges of an envelope are cut, along with the leading edge, so that the trailing edge is the only edge holding the envelope faces together. However, if the corners of the envelope at the leading edge are bent over, then the corners will not be severed. Therefore, the envelope will be held together by the front corners and the trailing edge. This may prevent the contents from being properly extracted from the envelope.

To ensure that the corners are cut off, the depth of cut of the three cutters can be increased. However, doing so increases the risk of severing the enclosed documents. To overcome these problems, Applicants methodology cuts two of the edges with a thin or feather cut, and one of the edges with a thick cut. Specifically, preferably the top and bottom edges are cut with a feather cut and the leading edge is cut with a thick cut. By doing so, it is unlikely that the feather cut to the top and bottom edges will cut the enclosed documents. The leading edge is then cut with a thick cut to ensure that the corners are severed. In this way, Applicants' methodology ensures that the envelope is severed along all three edges, while minimizing the likelihood of

severing any of the documents.

The Official Action recognizes that Kruk et al '393 does not teach or suggest setting the depth of cut of the third edge to be greater than the depth of cut of the first and second edges. However, the Official Action states that it would be obvious to modify the depth of cut of the third edge because the depth of cut can be greater if the size of the envelope is greater than the size of the documents. This is not true.

Frequently, documents are smaller than the envelope. For instance, when paying a telephone bill, the check is normally much smaller than the envelope. However, the check could be located anywhere inside the envelope. For this reason, regardless of the document size, the prior art has used a thin cut on all three edges to ensure that the document is not severed.

Kruk et al '393 simply continues the prior art method of using a thin cut on all three edges. Specifically, Kruk teaches using a milling cutter assembly 102 set to a very shallow depth of cut of about 0.010 to 0.015 to cut open the leading edge. Col. 15 lines 54-60. Then the top edge and trailing edges are cut using second and third milling assemblies 124 and 142. Kruk specifically says that the second and third milling assemblies operate "in the same manner as that previously described for the first milling cutter." See col. 16 lines 19-23 and lines 33-37.

Furthermore, Kruk specifically recognized the existing problem of cutting open an edge without damaging the contents. See col. 2 lines 39-41. Yet Kruk addresses the problem by using three identical cutters to make identical thin cuts.

The Examiner provides no motivation for making the changes he proposes. There must be some motivation for making the change; and that motivation must be provided by the prior art. Otherwise, the Examiner is using Applicants'

invention as a roadmap to simply pick and choose elements from the prior art and make changes that only seem obvious because the Applicants have pointed out the solution. But a solution always looks easier after someone explains it.

The Examiner is correct that the Kruk device could be modified to work as recited in claim 1. That is not the point. Claim 1 is a method claim, and there is no suggestion in Kruk of performing the steps in claim 1.

The Examiner states that the depth of cut could be set higher if the documents are smaller than the envelope. That has always been true. Yet the known ways of processing mail continued to use cutters that were all set to a similar depth of cut. Applicants recognized a better way that could minimize document damage while ensuring that the envelopes are properly cut so that the contents can be extracted.

Modifying the envelope cutting to use a thicker cut for the third edge may seem simple, but simplicity is not the same as obviousness. See Continental Can Co., Inc. v. Monsanto Co., 948 F.2d 1264, 20 U.S.P.Q.2d 1746 (Fed. Cir. 1991). The Court of Claims has even noted that "Experience has shown that some of the simplest advances have been the most non-obvious." van Veen v. United States, 386 F.2d 462, 151 U.S.P.Q. 506 (Ct. Cl. 1967). In fact, the simplicity of an invention may even be evidence of non-obviousness. In re Sporck, 301 F.2d 686, 689, 133 U.S.P.Q. 360, 363 (C.C.P.A. 1962).

Accordingly, as the Examiner has recognized, Kruk does not teach the features of claim 1. In addition, as discussed above, Kruk does not provide any motivation to make the changes proposed by the Examiner. Although the changes may seem simple, they are nonetheless patentable. If such a simple change was obvious, someone would have already made the change. But they have not. Therefore, Applicants request that the Examiner reconsider the rejection of claim 1 and dependent

claims 2 and 3.

Claims 14-19 and 64-70

The Official Action erroneously indicates that Kruk et al '393 anticipates independent claim 14 along with dependent claims 15-19 and 48-53, and independent claim 64 along with dependent claims 65-70. However, Kruk '393 is directed to a machine that is quite different from Applicants' device, and does not have the features indicated in the Official Action. Accordingly, Applicants request that the Examiner reconsider the rejection of claims 14 and 64, along with dependent claims 15-19, 48-53 and 65-70.

Applicants' mail processing apparatus is an automated high volume mail sorting machine. A stack of mail is placed in the input bin, which feeds the envelopes one at a time into the machine. The mail is processed so that the documents from the envelopes are extracted, then further processed if desired before being automatically stacked into a plurality of output bins. More specifically, the envelopes are cut open and the contents are extracted. Since the documents in an envelope are in face-to-face relation, the device separates the documents so that they can be individually processed. For this purpose, the Applicants' device includes a singulating station that receives the extracted documents in face-to-face relation and then separates them so that the extracted documents are serially fed into the document transport.

After the documents are separated, they may be further processed, if desired, in one of many ways. For instance, a detection station may scan each document to determine the document's orientation. If it is not in a desired orientation, the document may be re-oriented by flipping the document front to back or inverting the document, so that the document is in the desired orientation before being stacked in the output bins.

In contrast, Kruk '393 discloses a semi-automated mail processing station that does not have an extractor. A feeder feeds envelopes one at a time from a feed tray 74 to an opener 14 having three milling cutters that cut open the envelope on three sides. The cut envelope is then conveyed to a station where a pair of moveable suction cups 208 pull apart the front and back faces of the envelope to present the contents for extraction. An operator then manually removes the contents and manually sorts the contents as necessary.

The operation of the suction cups can be seen most clearly in Figs. 14-17. In Fig. 14, the suction cups 208 are pivoted away from the envelope. As shown in Figs. 15-16, the arms pivot inwardly so that the suction cups 208 engage the two faces of the envelope. The arms then pivot outwardly, pulling apart the faces 84 of the envelope, so that the contents can be easily extracted by the operator, as shown in Fig. 17.

Since Kruk '393 is directed to manual extraction, Kruk does not teach or suggest an extractor or a singulator as recited in claim 14. The Official Action refers to Col. 7, lines 14-16 as teaching an extractor. However, this section specifically talks about the operator extracting the documents. This simply confirms that Kruk does not teach an extractor; Kruk is a manual device that relies upon the operator to extract the documents.

Further still, there is no teaching of a singulator because the device is a manual device. The operator manually extracts the contents, and processes the documents. There is no need to singulate the documents as in an automated device such as Applicants' device. In fact, the Official Action does not identify any element as a singulator; it simply states that the device includes a singulator. The Official Action is wrong. Kruk does not have a singulator.

In addition, dependent claim 15 recites a system transport for conveying

documents from the extractor to the singulator. Since Kruk is a manual extraction device the operator removes the documents. Therefore, Kruk does not teach or suggest a device having a system transport for conveying documents away from an extractor to any other device. Accordingly, claim 15 is further patentably distinct from Kruk et al '393.

Further, claim 18 recites that the singulator has first and second rollers. Since Kruk does not teach or suggest a singulator, it does not teach the features of a singulator recited in claim 18. Accordingly, claim 18 is further patentably distinct from Kruk et al '393.

Referring to dependent claim 48, the claim recites a stiffener supporting the documents in the singulator. Since Kruk does not teach or suggest a singulator, it also does not teach or suggest a stiffener. For this reason, claim 48 is further patentably distinct from Kruk et al. '393.

Referring to dependent claim 49-53, these claims recite further features of the singulator. And since Kruk does not teach or suggest a singulator, it does not teach or suggest the additional singulator features recited in claims 49-53.

Since Kruk does not teach or suggest an extractor or a singulator, claim 14 is patentable over Kruk. Further, since Kruk does not teach or suggest the additional features recited in the dependent claims, such as those discussed above, claims 15-19 and 48-53, are further patentable over Kruk. Accordingly, Applicants request that the Examiner reconsider the rejection of claims 14-19 and 48-53.

Similarly, claim 64 recites the steps of extracting and singulating at least three documents and serially feeding the documents along a document path. As discussed above, Kruk does not teach such steps. Furthermore, claim 64 as amended

recites the step of conveying the documents along a document path to a singulator. Since Kruk is directed to a manual extraction device, it does not have a document transport for conveying documents along a document path to a singulator. Accordingly, claim 64 is patentable over Kruk.

In addition, dependent claims 65-68 further describe features of the singulation. Since Kruk does not teach any singulation, it does not teach or suggest these additional features. Similarly, claim 70 recites the step of supporting the documents to prevent the documents from buckling while the documents are engaged in the nip. Again, Kruk does not have any teaching or suggestion of such a step. For these additional reasons, dependent claims 65-70 are further patentably distinct from Kruk. et al '393.

Claims 33-40

The Examiner rejected claim 33 and dependent claims 34-40 as anticipated by Kruk et al '393. However, there is no discussion of the features of claim 33 in the Official Action. And as discussed further below, Kruk does not teach or suggest the features of claim 33 or the dependent claims. Therefore, Applicants request that the Examiner reconsider the rejection of claims 33-40.

Claim 33 recites the step of severing a document into first and second portions, extracting the document portions from the envelope and then singulating the document portions. As described in the application, one application that this methodology can be used in is for oversized documents that are generally too large for high speed document processing because they are too large to be conveyed through the device.

As discussed in Applicants' application, in certain instances it may be desirable to cut documents into document portions and then process the document

portions. See pages 41 to 43 of the present application. For instance, folded documents are normally inappropriate for automated processing because the folded documents cannot be properly scanned, and may buckle when they are transported, thereby causing a jam. Therefore, if an envelope is scanned and it is determined that the envelope contains a folded document, prior art devices normally outsort such envelopes for processing by hand.

Instead of rejecting envelopes having such folded documents, Applicants methodology provides for automatically processing the documents by severing the documents in an envelope and then extracting the severed portions. The severed portions are then monitored to ensure that the document portions remain associated with one another. Since Kruk is directed toward a manual mail processing station, it does not describe severing a document into pieces and then processing the pieces; the operator can simply remove over-sized documents. Therefore, Kruk does not teach or suggest the methodology claimed in claim 33.

Claims 34-40 further define features of the methodology directed to processing the severed documents portions. Since Kruk does not teach the processing of severed document portions, Kruk does not teach or suggest the further features recited in dependent claims 34-40. Accordingly, Applicants request that the Examiner reconsider the rejection of claims 33-40.

#### Claims 54-63

The Official Action erroneously states that claims 54-63 are anticipated by Kruk et al. '393. Independent claims 54 and 64 are directed to the feature of Applicants' apparatus and methodology in which the thickness of an envelope is measured and the feeding of a subsequent envelope is controlled in response to the measured thickness. Nothing in Kruk et al '393 teaches or suggests controlling the

feeding of envelopes in response to the thickness of a preceding envelope. Kruk et al. '393 simply feeds the envelopes automatically any time a downstream sensor indicates that an envelope is needed. Accordingly, Applicants request that the Examiner reconsider the rejection of claims 54-63.

The Official Action indicated that Kruk teaches a thickness detector and a system controller that controls the feeding of the envelopes in response to the detected thickness to maintain the proper spacing between documents. This is not correct.

Kruk suggests using a thickness detector to separate out envelopes that have documents that may not be appropriate for processing by the device. Kruk does not use the thickness measurement to control the feeding of subsequent envelopes to maintain the proper gap between documents. Kruk simply teaches that envelopes having a certain thickness are not processed.

After documents are extracted from an envelope, they are conveyed face to face so that the flow of documents only take up the same amount of space as a single document. After the documents are singulated they take up more space since they are conveyed one in front of the other. Preferably, the envelopes are fed so that the extracted contents of an envelope arrive at the singulator when the last of the documents from the preceding envelope is passing through the singulator. If an envelope is fed too early, its contents may arrive at the singulator too early so that they interfere with the preceding documents at the singulator. If an envelope is fed too late, the preceding documents will have already passed through the singulator and there will be an unnecessary gap in the flow of documents. Such a gap reduces the processing rate, meaning that the device operates less efficiently.

As discussed in the application, one of the features of Applicants' apparatus and methodology is the ability to process mail having different numbers of

documents. After the mail is opened, the documents are extracted and then separated. To process the documents as fast as possible, the gaps between documents should be minimized. At the same time, there should be adequate space in the flow of documents for each document to be serially conveyed after it is extracted.

For instance, if an envelope has two documents, the next envelope should be delayed a sufficient amount to allow a gap in the flow for accommodating the two documents after they are separated. In contrast, if an envelope has ten documents, then the subsequent envelope must be delayed longer to allow a gap in the flow of documents to accommodate all ten documents after they are separated.

To minimize the gaps between documents while still providing adequate gaps for all of the extracted documents, Applicants' apparatus measures the thickness of an envelope after it is fed from an input bin. Based on the thickness, the apparatus may estimate the number of documents that are in the envelope and determine an appropriate gap to accommodate the anticipated number of documents. The feeding of the next envelope from the input bin is then controlled to provide the appropriate gap.

Referring now to the claims, claim 54 recites a thickness detector for detecting the thickness of a leading piece of mail, and a system controller operable to control a feeder to feed a trailing piece of mail in response to the detected thickness of the leading piece of mail to maintain the proper spacing between the leading piece of mail and the trailing piece of mail. Similarly, claim 57 recites a method including the step of measuring the thickness of a leading piece of mail and determining the gap necessary between the leading piece of mail and the trailing piece of mail based on the measured thickness of the leading piece of mail. The method further includes the step of controlling the feeding of a trailing piece of mail to provide the determined gap.



Patent Application No. 09/542,418

As discussed above, Kruk does not teach measuring the thickness of an envelope and controlling the feeding of a subsequent envelope to provide adequate gaps between documents. Since nothing in Kruk et al. '393 teaches or suggests the features in claims 54-63 as discussed above, claims 54-63 are patentable over Kruk et al '393. Therefore, Applicants request that the Examiner reconsider the rejection of claims 54-63.

In light of the foregoing, Applicant believes that this application is in form for allowance. The Examiner is encouraged to contact Applicant's undersigned attorney if the Examiner believes that issues remain regarding the allowability of this application.

Respectfully submitted,

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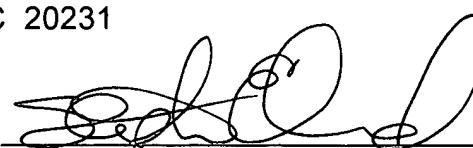
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I hereby certify that this Response and accompanying papers are being deposited on November 12, 2002 with the United States Postal Service as first-class mail in an envelope properly addressed to COMMISSIONER OF PATENTS AND TRADEMARKS, Washington, DC 20231

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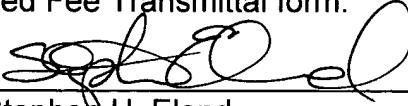
Patent Application No. 09/542,418

**Petition for Extension Under 37 CFR §1.136(a)**

Applicant's undersigned attorney hereby petitions for an extension of time of 1 month(s) beyond the time period set in the last office communication. The proper fee is enclosed as identified in the enclosed Fee Transmittal form.

November 12, 2002

Date of Certificate

  
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ATTACHMENT A

64. A method for processing envelopes containing contents of at least three documents, comprising the steps of:

opening an envelope having contents of at least three documents;

transporting the envelope to an extractor;

extracting the contents from the envelopes;

transporting the extracted documents along a document path from the extractor to a singulator; and

singulating the at least three extracted documents and serially feeding the documents along a document path.